



## ARTIFACTS

*Changing Earth* features some of the most important artifacts from our archives that emphasize the long history of The Franklin Institute's relationship with weather. The Franklin Institute created one of the first state-funded programs for documenting weather. Some of the artifacts on display in *Changing Earth* include entries of the *Meteorological Journal* that were used to compile all of the observations, antique weather monitoring equipment, and artifacts that demonstrate the potentially devastating effects of natural disasters, beginning in the early 1800's.

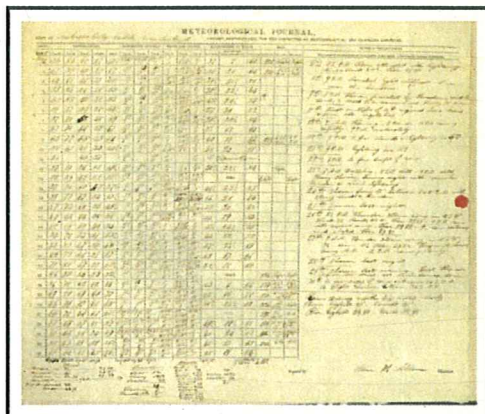


### "No. 1" Standard Barometer with Attached Thermometer

*Made in Philadelphia by L. C. Francis in 1837*

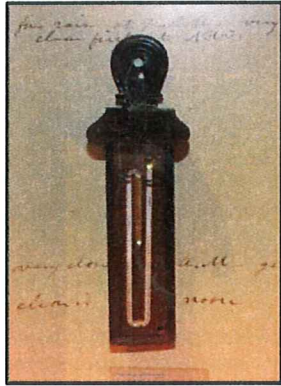
*Cat. # 4731*

Perhaps the most significant of the weather artifacts at The Franklin Institute, this barometer was built especially for the Museum with funds provided by an Act of Legislature on March 31, 1837 that authorized the spending of \$4,000 for work in meteorology and the purchase of instruments for each county of the state of Pennsylvania. The barometer is 42" tall and has an attached mercury thermometer. The inscription reads: "*Furnished to Philadelphia City by the Joint Committee of Meteorology of the American Philosophical Society and the Franklin Institute of Pennsylvania by the Authority of the State of Pennsylvania.*"



### Meteorological Journal Entry

In 1837, The Franklin Institute initiated a state-wide program for documenting daily weather conditions throughout the Commonwealth. This program introduced standardized reporting forms, conducted by volunteer observers. Along with an official barometer, thermometer, and a rain gauge, volunteer observers in every county throughout the state reported weather conditions for their respective locale. Every month, county observers sent back a *Meteorological Journal* entry to James Espy, the appointed state meteorologist at the Institute. Espy compiled the weather data and published the monthly results in *The Journal of The Franklin Institute*.



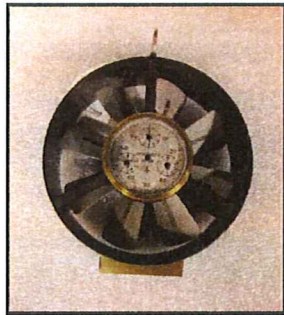
**Maximum-Minimum Thermometer  
(-30 to +130F)**

*Date Unknown*

*Maker Unknown*

*Cat. # 80-11-4*

This weather instrument is used to record the highest and lowest temperatures observed over a 24-hour period. There are many uses for a minimum-maximum thermometer-- one example would be to measure how low the temperature dropped in a greenhouse overnight to figure out exactly when it gets too cold for the plants or flowers to survive.



**Anemometer (Air Meter) with Eight Aluminum Rotating Vanes**

A device used for measuring wind speed.

*Model No. 5958, Serial No. 33022*

*ca. 1932*

*Made by Keuffel & Esser Company*

*New York, N.Y.*

*Cat. #73-116*



**Sling Psychrometer (Hygrometer) with  
Folding, Wooden Handle**

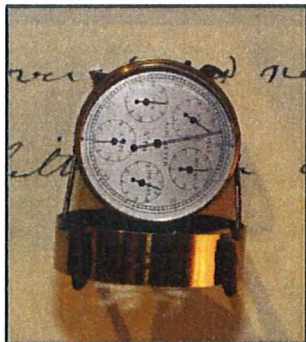
*Model No. 1322, Serial No. 7A-553732*

*Early 1900s*

*Made by Tycos Taylor Instrument Company*

*Rochester, N.Y. & Toronto, Canada Cat. # 73-122*

A sling psychrometer, the simplest type of hygrometer, measures the relative humidity of the surrounding air by comparing the temperatures of one dry and one wet bulb thermometer. A small chain on the end of the wooden handle attaches the thermometers to each other. The psychrometer is spun around rapidly for a few minutes and readings are taken from the dry and wet bulbs. After these readings are taken, there is a scale that is used to correlate the readings. The relative humidity is read at the intersection of the RH scale and the wet bulb temperature.



**Polished Brass Anemometer (Air Meter) with Eight Aluminum  
Rotating Vanes**

A device used for measuring wind speed.

*ca. 1893*

*Made by T.B. Bickerton & Company*

*Philadelphia, PA. Cat. #4477.15*

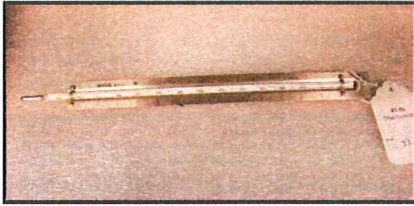


**Chrome Aneroid Barometer mounted on Octagonal Wooden Plaque**

*Early 1900s Made by Selsi in Germany*

*Cat. #6138*

Aneroid barometers are instruments used for measuring the pressure of the air in the atmosphere. They weren't invented until the 1840's - years after Benjamin Franklin's time. High or rising pressure means that clear, sunny weather is expected, while falling or low pressure is a sign of rain or an approaching storm. As air pressure increases, it pushes down on a metal diaphragm, which in turn causes the indicating needle to move.



**U.S. Weather Bureau Thermometer (Exposed)**

*Pre-World War II*

*Made by Weksler, Inc. in New York, NY*

*Cat. #41-56*

**Artifacts from the 2005 Hurricane Katrina**



**Piece of the failed floodwall**

*Army Corps of Engineers, New Orleans Division*

*New Orleans, LA*

*On loan from Dale Biggers*



**Water-damaged book**

*Published under the Auspices of The Women's Hospital of the State of New York*

*New York, NY*

*On loan from Brian Bain*

**Artifacts from the 1906 San Francisco Earthquake**

*ca. 1880-1906*

*Manufacturer unknown*

*On loan from the San Francisco Museum and Historical Society*

